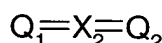


2025

1. A compound of the formula (Ia), (Ib) or (Ic)

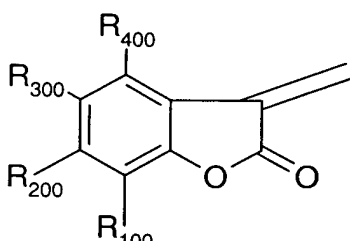


(lc)

in which

Q₁ is a benzofuran-2-one of the formula (IIa), and

Q₂ is a benzofuran-2-one of the formula (IIb)



(11b)

in which

R₁, R₂, R₃, R₄, R₁₀₀, R₂₀₀, R₃₀₀ or R₄₀₀ independently of one another are hydrogen, halogen, hydroxyl, cyano, ether, nitro, an amine, amide, imine, urethane, sulfonamide, ester, carboxylic acid or sulfonic acid radical or carboxylic salt, sulfonic salt or substituted or unsubstituted C₁-C₂₄alkyl, C₁-C₂₄alkoxy, C₁-C₂₄alkylthio, C₅-C₁₂cycloalkyl, C₅-C₁₂cycloalkoxy, C₅-C₁₂cycloalkylthio, C₂-C₂₄alkenyl, C₆-C₂₄aryl, C₇-C₂₅aralkyl, C₆-C₂₄aryloxy, C₆-C₂₄arylthio, A₅-A₁₈heteroaryl, A₅-A₁₈heteroaryloxy or A₅-A₁₈heteroarylthio, or

R₁ and R₂, R₂ and R₃, R₃ and R₄ or R₁₀₀ and R₂₀₀, or R₂₀₀ and R₃₀₀, R₃₀₀ and R₄₀₀, independently of one another in each case together are divalent, substituted or unsubstituted radicals, such as polycyclic radicals or 1,3-butadien-1,4-ylene or -CH=CH-NH-, the two last radicals forming an additional fused-on 5- or 6-membered ring, and

X₁ is a hydrazone or imine radical, with the proviso that, if R₁, R₂, R₃ and R₄ are hydrogen,

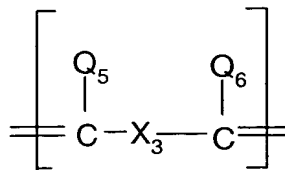
$$= \text{C} \begin{matrix} \nearrow Q_3 \\ \searrow Q_4 \end{matrix}$$

or

Q₃ is not hydrogen and Q₄ is not methyl, 4-aminophenyl, 4-dimethylaminophenyl or -OCO-4-(1-chlorophenylene) if R₁, R₂, R₃ and R₄ are hydrogen, or Q₃ is not hydrogen and Q₄ is not 4-aminophenyl if R₁ and R₃ are tert-C₅H₁₁alkyl, or Q₃ is not hydrogen and Q₄ is not 2-hydroxyphenyl if R₁ and R₃ are tert-butyl, or

~~Q₃ is not hydrogen and Q₄ is not a primary or secondary amine radical if R₃ is hydrogen, methoxy or hydroxyl and R₁, R₂ and R₄ are hydrogen, or Q₃ is not hydrogen and Q₄ is not a secondary amine radical if R₁, R₂, R₃ and R₄ are hydrogen, and~~

X₂ is a tetravalent 5- or 6-membered heterocyclic ring, or is



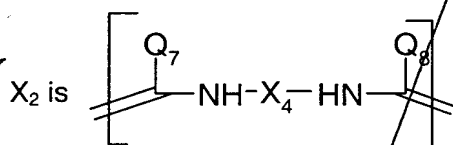
X₃ is a single bond, unsubstituted or substituted C₆-C₂₄arylene, A₅-A₁₈heteroarylene, 1,2-phenylene, 1,3-phenylene, 1,4-phenylene or naphthylene, or a tetravalent

polyether, polyimine, polyamine radical, or bi(C₆-C₂₄)arylene, bi(A₅-A₁₈)heteroarylene, C₂-C₂₄alkenylene, in which bi(C₆-C₂₄)arylene, bi(A₅-A₁₈)heteroarylene or C₂-C₂₄alkenylene can be interrupted by one or more intermediate units such as -CH=CH-, -CH=N-, -N=N-, -CR₄₄R₄₂-, -CO-, -COO-, -OCO-, -NR₄₂CO-, -CONR₄₂-, -O-, -S-, -SO-, -SO₂- or -NR₄₂-, in which

R₄₂ and R₄₄ independently of one another are hydrogen, substituted or unsubstituted C₁-C₂₄alkyl, C₅-C₁₂cycloalkyl, C₂-C₂₄alkenyl, C₆-C₂₄aryl, C₇-C₂₅aralkyl or A₅-A₁₈heteroaryl, and

Q₅ and Q₆ independently of one another are hydrogen, C₆-C₂₄aryl, C₆-C₂₄aryloxy, C₁-C₂₄alkyl, C₁-C₂₄alkoxy, C₁-C₂₄alkylthio, C₅-C₁₂cycloalkyl, C₅-C₁₂cycloalkoxy, C₅-C₁₂cycloalkylthio, C₂-C₂₄alkenyl, C₆-C₂₄aryl, C₆-C₂₄aryloxy, C₆-C₂₄arylthio or A₅-A₁₈heteroaryl, A₅-A₁₈heteroaryloxy, A₅-A₁₈heteroarylthio, or

SUB
a'7

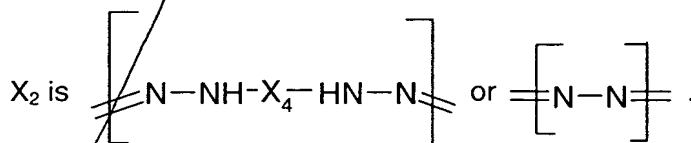


in which

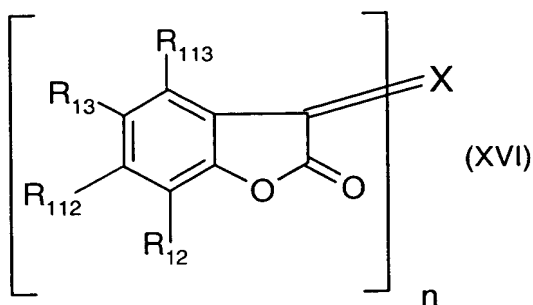
Q₇ and Q₈ independently of one another are Q₅ or Q₆, and

X₄ is C₆-C₂₄arylene, A₅-A₁₈heteroarylene, a polymethylenide or divalent polyether, polyimine, polyamine radical, or bi(C₆-C₂₄)arylene, bi(A₅-A₁₈)heteroarylene, C₂-C₂₄alkenylene, in which bi(C₆-C₂₄)arylene, bi(A₅-A₁₈)heteroarylene or C₂-C₂₄alkenylene can be interrupted by one or more intermediate units such as -CH=CH-, -CH=N-, -N=N-, -CR₄₄R₄₂-, -CO-, -COO-, -OCO-, -NR₄₂CO-, -CONR₄₂-, -O-, -S-, -SO-, -SO₂- or -NR₄₂-,

or



Sub B2



in which

n is 1 or 2, and

if n is 1

X is X_1 as defined in claim 1, and

if n is 2

X is X_2 as defined in claim 1, and

R₁₂, R₁₁₂, R₁₃ and R₁₁₃ independently of one another are hydrogen, halogen, OH, NO₂, R₁₄, OR₁₄, OC₉-C₁₈alkyl or SC₉-C₁₈alkyl, in which

~~R₁₄ is C₁-C₂₄alkyl which is unsubstituted or substituted one or more times by oxo or by COO⁻X₅⁺ and which can be uninterrupted or interrupted one or more times by O, N and/or S, or is C₇-C₁₈aralkyl or C₆-C₁₂aryl unsubstituted or substituted one or more times by halogen, OR₁₆, NR₁₆R₁₇, COOR₁₆, CONR₁₆R₁₇, NR₁₈COR₁₆ or NR₁₈COOR₁₆.~~

X_5^+ is a cation H^+ , Na^+ , K^+ , Mg^{++} , Ca^{++} , Zn^{++} , Al^{+++} , or $[NR_{16}R_{17}R_{18}R_{19}]^+$, and

~~R₁₆ and R₁₇ independently of one another are hydrogen, C₆-C₁₂aryl, C₇-C₁₀aralkyl, or C₁-C₈alkyl which is unsubstituted or substituted one or more times by halogen, hydroxyl or C₁-C₄alkoxy, or~~

~~R₁₆ and R₁₇ in NR₁₆R₁₇ or CONR₁₆R₁₇, together with the nitrogen atom connecting them, are pyrrolidine, piperidine, piperazine or morpholine each of which is unsubstituted or substituted from one to four times by C₁-C₄alkyl,~~

and R₁₈ and R₁₉ independently of one another are hydrogen, C₁-C₈alkyl, C₆-C₁₀aryl or C₆-C₁₂aralkyl,

~~R₁₂ and R₁₁₂, R₁₁₂ and R₁₃, R₁₃ and R₁₁₃ can also independently of one another each~~

A

 \wedge 

if n is 1

R₆₄ independently of R₆₃ is a radical as defined under R₆₃ or is hydrogen, and

R₆₃ is substituted or unsubstituted C₁-C₁₂alkyl, C₅-C₁₂cycloalkyl, C₂-C₆alkenyl, C₆-C₁₂aryl, C₇-C₁₃aralkyl, or A₅/A₁₂heteroaryl, and

if n is 2

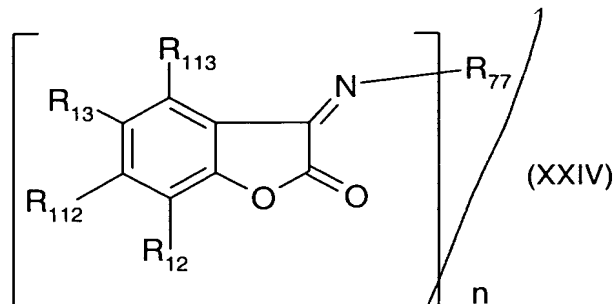
R₆₃ is unsubstituted or substituted C₆-C₁₈arylene, A₅-A₁₈heteroarylene, C₅-C₆cycloalkyl or a divalent polymethylidene, polyether, polyimine, polyamine radical, or bi(C₆-C₂₄)arylene, bi(A₅-A₁₈)heteroarylene, C₂-C₂₄alkenylene, in which bi(C₆-C₂₄)arylene, bi(A₅-A₁₈)heteroarylene or C₂-C₂₄alkenylene can be interrupted and/or connected to one another by a direct bond or by one or more intermediate units such as -CH=CH-, -CH=N-, -N=N-, -CR₄₄R₄₂-, -CO-, -COO-, -OCO-, -NR₄₂CO-, -CONR₄₂-, -O-, -S-, -SO-, -SO₂- or -NR₄₂-.

with the proviso that if R₁, R₂, R₃ and R₄ are hydrogen or an R₁, R₂, R₃ or R₄ is methyl, the hydrazone radical is excluded,

or

a compound of the formula (XXIV)

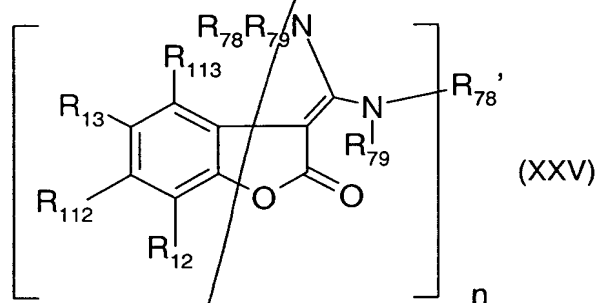
[illegible]



in which, if n is 1,

R₇₇ is substituted or unsubstituted C₁-C₁₂alkyl, C₅-C₆cycloalkyl, C₂-C₆alkenyl, C₆-C₁₂aryl, C₇-C₁₃aralkyl or A₅-A₁₂heteroaryl, with the proviso that in formula (XXIV), if R₁₂, R₁₁₂, R₁₃ or R₁₁₃ are hydrogen, R₇₇ is not unsubstituted phenylimine or 4-dimethylaminephenylimine,
or

a compound of the formula (X~~X~~V)



in which

if n is 1

R₇₈, R₇₈' and R₇₉ independently of one another are hydrogen or substituted or unsubstituted C₁-C₁₂alkyl, C₁-C₁₂alkoxy, C₁-C₁₂alkylthio, C₅-C₆cycloalkoxy, C₅-C₆cycloalkylthio, C₆-C₂₄aryloxy, C₆-C₂₄arylthio or A₅-A₁₂heteroaryloxy, A₅-A₁₂heteroarylthio, C₅-C₆cycloalkyl, C₂-C₁₂alkenyl, C₆-C₁₂aryl, C₇-C₁₃aralkyl, or A₅-A₁₂heteroaryl, or dependently of one another are hydrogen, and

if n is 2

R_{78} and R_{79} are as defined above when n is 1, and

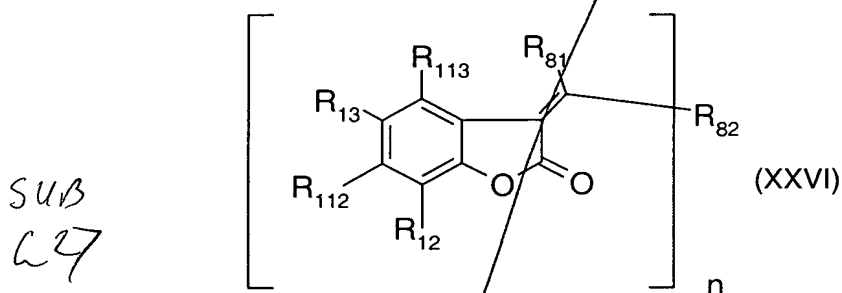
R₇₈' is a direct bond or substituted or unsubstituted C₆-C₂₄arylene, A₅-A₁₈heteroarylene, C₅-C₁₂cycloalkyl or bi(C₆-C₂₄)arylene, bi(A₅-A₁₈)heteroarylene, C₂-C₂₄alkenylene, in which bi(C₆-C₂₄)arylene, bi(A₅-A₁₈)heteroarylene, C₂-C₂₄alkenylene can be interrupted

by a direct bond or by one or more intermediate units such as $-\text{CH}=\text{CH}-$, $-\text{CH}=\text{N}-$, $-\text{N}=\text{N}-$, $-\text{CR}_{44}\text{R}_{42}-$, $-\text{CO}-$, $-\text{COO}-$, $-\text{OCO}-$, $-\text{NR}_{42}\text{CO}-$, $-\text{CONR}_{42}-$, $-\text{O}-$, $-\text{S}-$, $-\text{SO}-$, $-\text{SO}_2-$ or $-\text{NR}_{42}-$,

in which

R_{42} and R_{44} independently of one another are hydrogen, substituted or unsubstituted $\text{C}_1\text{-C}_{24}$ alkyl, $\text{C}_5\text{-C}_{12}$ cycloalkyl, $\text{C}_2\text{-C}_{24}$ alkenyl, $\text{C}_6\text{-C}_{24}$ aryl, $\text{C}_7\text{-C}_{25}$ aralkyl, or $\text{A}_5\text{-A}_{18}$ heteroaryl, or

a compound of the formula (XXVI)



in which

if n is 1

R_{81} and R_{82} are $\text{C}_6\text{-C}_{12}$ aryl, if R_{12} , R_{112} , R_{13} or R_{113} are not hydrogen, or

R_{81} and R_{82} independently of one another are hydrogen or unsubstituted or substituted $\text{C}_1\text{-C}_{12}$ alkyl, $-\text{CO}-(\text{C}_1\text{-C}_{24}\text{alkyl})$, $-\text{CO}-\text{O}-(\text{C}_1\text{-C}_{24}\text{alkyl})$, $\text{C}_6\text{-C}_{12}$ aryloxy, $\text{C}_1\text{-C}_{12}$ alkoxy, $\text{C}_1\text{-C}_{12}$ alkylthio, $\text{C}_5\text{-C}_{12}$ cycloalkyl, $\text{C}_5\text{-C}_{12}$ cycloalkoxy, $\text{C}_2\text{-C}_{12}$ alkenyl, a primary or secondary amine radical, $\text{C}_6\text{-C}_{18}$ aryl, $-\text{CO}-\text{O}-(\text{C}_6\text{-C}_{24}\text{aryl})$, $-\text{CO}-(\text{C}_6\text{-C}_{24}\text{aryl})$, $\text{C}_6\text{-C}_{18}$ aryloxy, $\text{C}_6\text{-C}_{18}$ arylthio or $\text{A}_5\text{-A}_{12}$ heteroaryl, $\text{A}_5\text{-A}_{12}$ heteroaryloxy, $\text{A}_5\text{-A}_{12}$ heteroarylthio, or R_{81} and R_{82} together are a lactam, quinomethylene, hydantoin, acenaphthenequinone, azlactone, pyrazolonyl, barbituric acid, isoindolinone or isoindoline radical,

with the proviso that R_{81} and R_{82} are not phenyl or

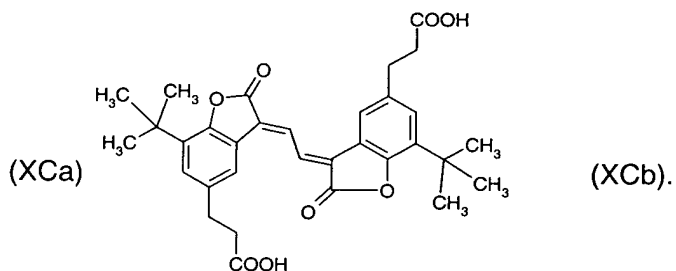
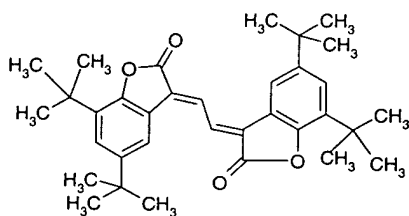
R_{81} is not hydrogen and R_{82} is not methyl, 4-aminophenyl, 4-dimethylaminophenyl or $-\text{OCO}-4-(1\text{-chlorophenylene})$ if R_1 , R_2 , R_3 and R_4 are hydrogen, or R_{81} is not hydrogen and R_{82} is not 4-aminophenyl if R_1 and R_3 are tert- C_5H_{11} alkyl, or R_{81} is not hydrogen and R_{82} is not 2-hydroxyphenyl if R_1 and R_3 are tert-butyl, or

R_{81} is not hydrogen and R_{82} is not a primary or secondary amine radical if R_3 is hydrogen, methoxy or hydroxyl and R_1 , R_2 and R_4 are hydrogen, or R_{81} is not hydrogen and R_{82} is not a secondary amine radical if R_1 , R_2 , R_3 and R_4 are hydrogen, and

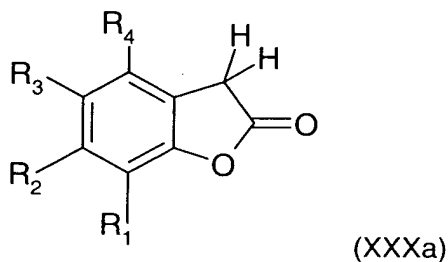
if n is 2

R_{82} is a single bond, an unsubstituted or substituted C_6 - C_{18} arylene, especially 1,2-phenylene, 1,3-phenylene, 1,4-phenylene or naphthylene or (A_5-A_{18}) heteroarylene or $bi(C_6-C_{24})$ arylene, especially biphenylene, $bi(A_5-A_{18})$ heteroarylene, C_2 - C_{24} alkenylene, in which $bi(C_6-C_{24})$ arylene, $bi(A_5-A_{18})$ heteroarylene or C_2 - C_{24} alkenylene, can be interrupted by one or more intermediate units such as $-CH=CH-$, $-CH=N-$, $-N=N-$, $-CR_{44}R_{42}-$, $-CO-$, $-COO-$, $-OCO-$, $-NR_{42}CO-$, $-CONR_{42}-$, $-O-$, $-S-$, $-SO-$, $-SO_2-$ or $-NR_{42}-$, in which R_{42} and R_{44} independently of one another are hydrogen, substituted or unsubstituted C_1 - C_{24} alkyl, C_5 - C_{12} cycloalkyl, C_2 - C_{24} alkenyl, C_6 - C_{24} aryl, C_7 - C_{25} aralkyl, or A_5 - A_{18} heteroaryl.

4. A compound of the formula (XXVI) according to any one of claims ~~1, 2 and 3~~ having the formula (XCa) or (XCb)



5. A process for preparing a benzofuran-2-one (Ia) according to claim 1, which comprises reacting benzofuran-2-one (XXXa)

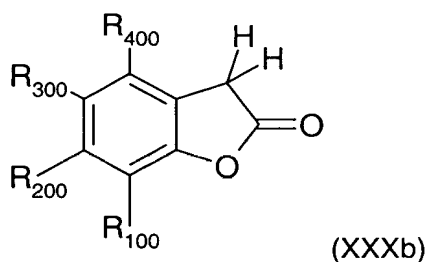


(X)

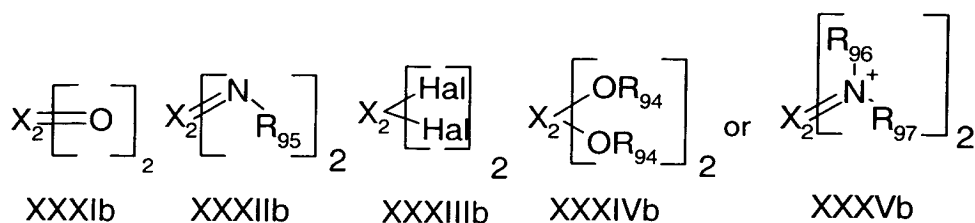
$$\begin{array}{ccccc}
 \text{X}_1=\text{O} & \text{X}_1=\text{N}-\text{R}_{95} & \text{Hal}-\text{X}_1-\text{Hal} & \text{R}_{94}\text{O}-\text{X}_1-\text{OR}_{94} & \text{X}_1=\text{N}^+-\text{R}_{97} \\
 \text{XXXIa} & \text{XXXIIa} & \text{XXXIIIa} & \text{XXXIVa} & \text{XXXVa}
 \end{array}$$

X₁ is X₇ and corresponds to the definition in claim 1 for X₁, with the proviso that X₇ is not a hydrazone or imine radical.

6. A process for preparing a benzofuran-2-one (Ib) or (Ic) according to claim 1, which comprises reacting benzofuran-2-one (XXXa), or (XXXa) and a compound of the formula (XXXb)

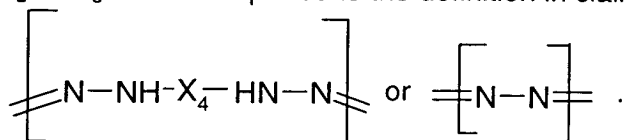


with a compound of the formulae (XXXIb), (XXXIIb), (XXXIIIb), (XXXIVb) or (XXXVb)

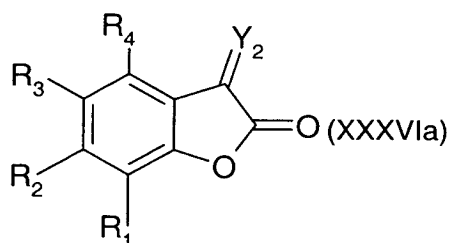


in which

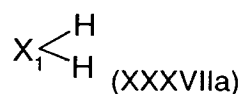
X₂ is X₈ and corresponds to the definition in claim for X₂, with the proviso that X₈ is not



7. A process for preparing a benzofuran-2-one (Ia) according to claim 1, which comprises reacting 3-oxobenzofuran-2-one (XXXVIa)



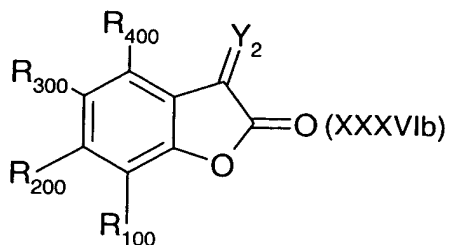
with a compound of the formula (XXXVIIa)



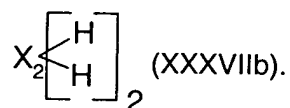
in which,

Y₂ is O, NR₉₅ or N⁺(R₉₆R₉₇), NO or two chlorine atoms, the chlorine atoms each forming a single bond with the benzofuran-2-one (Ia).

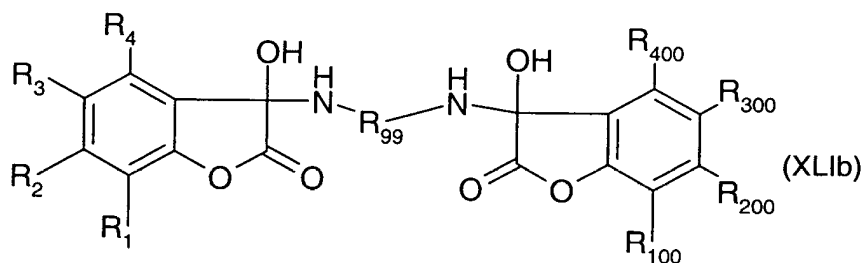
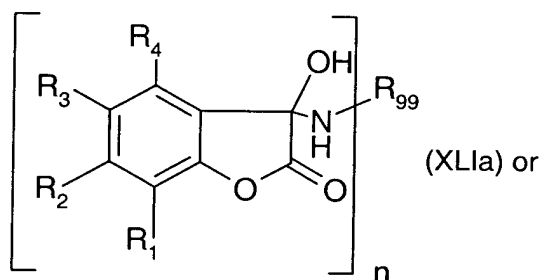
8. A process for preparing a benzofuran-2-one (Ib) or (Ic) according to claim 1, which comprises reacting 3-oxobenzofuran-2-one (XXXVIa) or (XXXVIa) and a compound of the formula (XXXVIb)



with a compound of the formula (XXXVIIb)



9. An aminohydroxy compound of the formula (XLla) or (XLlb)



in which

n is 1 or 2, and

if n is 1

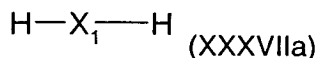
R₉₉ is hydrogen or substituted or unsubstituted C₁-C₂₄alkyl, C₅-C₁₂cycloalkyl, C₂-C₂₄alkenyl, C₆-C₂₄aryl, C₇-C₂₅aralkyl or A₅-A₁₈heteroaryl, and

if n is 2

R₉₉ is a direct bond, C₆-C₂₄arylene, A₅-A₁₈heteroarylene, C₅-C₁₂cycloalkyl or bi(C₆-

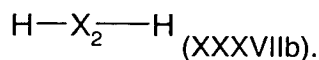
C₂₄)arylene, bi(A₅-A₁₈)heteroarylene, C₂-C₂₄alkenylene, in which bi(C₆-C₂₄)arylene, bi(A₅-A₁₈)heteroarylene, C₂-C₂₄alkenylene can be interrupted by a direct bond or by one or more intermediate units such as -CH=CH-, -CH=N-, -N=N-, -CR₄₄R₄₂-, -CO-, -COO-, -OCO-, -NR₄₂CO-, -CONR₄₂-, -O-, -S-, -SO-, -SO₂- or -NR₄₂-, and in which R₄₂ and R₄₄ independently of one another are hydrogen, substituted or unsubstituted C₁-C₂₄alkyl, C₅-C₁₂cycloalkyl, C₂-C₂₄alkenyl, C₆-C₂₄aryl, C₇-C₂₅aralkyl, or A₅-A₁₈heteroaryl.

10. A process for preparing an amine hydroxy compound of the formula (XLla) or (XLlb) according to claim 9, which comprises reacting 3-oxobenzofuran-2-one (XXXVIa) according to claim 7 with a compound of the formula (XXXVIIa)

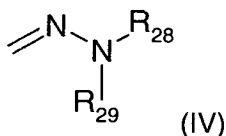


or

reacting 3-oxobenzofuran-2-one (XXXVIa) or (XXXVIb) and (XXXVIb) of claim 8 with a compound of the formula (XXXVIIb)



11. A process for preparing a benzofuran-2-one (Ia), (Ib) or (Ic) according to claim 1 in which X₁ is a compound of the formula (IV)

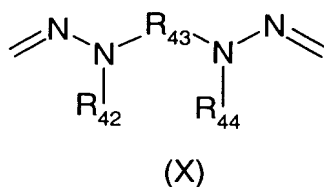


in which

R₂₈ and R₂₉ independently of one another are substituted or unsubstituted C₁-C₂₄alkyl, C₅-C₁₂cycloalkyl, C₂-C₂₄alkenyl, C₆-C₂₄aryl, C₇-C₂₅aralkyl, A₅-A₁₈heteroaryl or dependently of one another are hydrogen,

and X₂ is a compound of the formula (X)

00518464.030300



in which

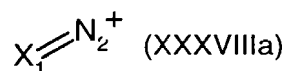
R_{42} and R_{44} independently of one another are substituted or unsubstituted $\text{C}_1\text{-C}_{24}$ alkyl, $\text{C}_5\text{-C}_{12}$ cycloalkyl, $\text{C}_2\text{-C}_{24}$ alkenyl, $\text{C}_6\text{-C}_{24}$ aryl, $\text{C}_7\text{-C}_{25}$ aralkyl, $\text{A}_5\text{-A}_{18}$ heteroaryl or dependently of one another are hydrogen, and

R_{43} is a direct bond, $\text{C}_6\text{-C}_{24}$ arylene, $\text{A}_5\text{-A}_{18}$ heteroarylene, $\text{C}_5\text{-C}_{12}$ cycloalkyl or $\text{bi}(\text{C}_6\text{-C}_{24})$ arylene, $\text{bi}(\text{A}_5\text{-A}_{18})$ heteroarylene, $\text{C}_2\text{-C}_{24}$ alkenylene, in which $\text{bi}(\text{C}_6\text{-C}_{24})$ arylene, $\text{bi}(\text{A}_5\text{-A}_{18})$ heteroarylene, $\text{C}_2\text{-C}_{24}$ alkenylene can be connected to one another and/or interrupted by a direct bond or by one or more intermediate units such as $-\text{CH}=\text{CH}-$, $-\text{CH}=\text{N}-$, $-\text{N}=\text{N}-$, $-\text{CR}_{44}\text{R}_{42}-$, $-\text{CO}-$, $-\text{COO}-$, $-\text{OCO}-$, $-\text{NR}_{42}\text{CO}-$, $-\text{CONR}_{42}-$, $-\text{O}-$, $-\text{S}-$, $-\text{SO}-$, $-\text{SO}_2-$ or $-\text{NR}_{42}-$,

in which

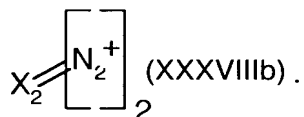
R_{42} and R_{44} independently of one another are hydrogen, substituted or unsubstituted $\text{C}_1\text{-C}_{24}$ alkyl, $\text{C}_5\text{-C}_{12}$ cycloalkyl, $\text{C}_2\text{-C}_{24}$ alkenyl, $\text{C}_6\text{-C}_{24}$ aryl, $\text{C}_7\text{-C}_{25}$ aralkyl, or $\text{A}_5\text{-A}_{18}$ heteroaryl,

by coupling diazotized amines with coupling components in an aqueous medium, which comprises reacting benzofuran-2-one (XXXa) of claim 4 with a diazonium salt of the formula (XXXVIIIa)



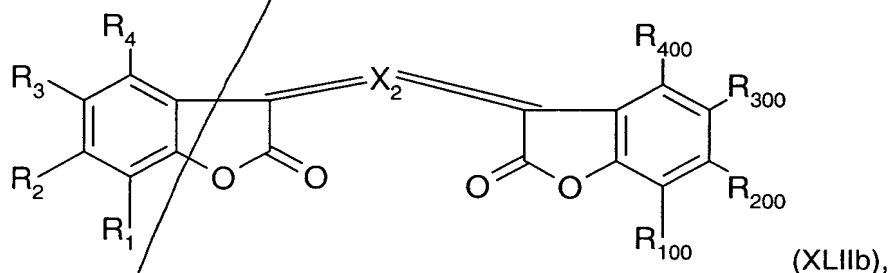
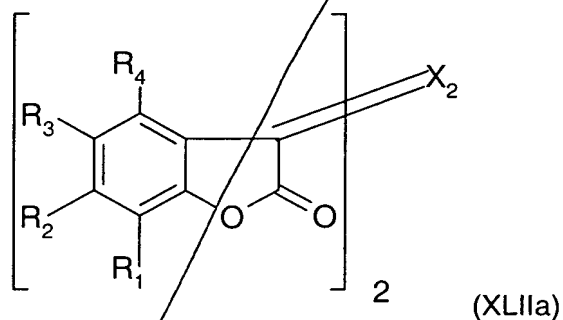
or

reacting benzofuran-2-one (XXXa), or (XXXa) and (XXXb) of claim 5 with a diazonium salt of the formula (XXXVIIIb)



12. A composition consisting of from 2 to 10, preferably 2 or 3, compounds of the formulae (Ia), (Ib) and/or (Ic) according to claim 1, and/or (XLla) and/or (XLlb) according to claim 9, and/or dimeric benzofuran-2-ones of the formulae (XLIIa) and/or (XLIIb)

SUB
a3
or



in which

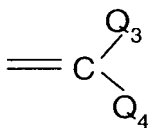
X_2 is (C_6-C_{24}) arylene, (A_5-A_{18}) heteroarylene or a divalent polymethylidene, polyether, polyimine, polyamine radical, or $bi(C_6-C_{24})$ arylene or $bi(A_5-A_{18})$ heteroarylene, the $bi(C_6-C_{24})$ arylene or $bi(A_5-A_{18})$ heteroarylene radical being attached directly or via a substituted or unsubstituted carbon, nitrogen, oxygen or $(-N=N-)$ -diradical.

13. A composition of matter comprising a high molecular weight organic material and at least one compound of the formulae (Ia), (Ib), (Ic) according to claim 1

in which

X_1 is X_{10} , where X_{10} is a substituted or unsubstituted hydrazone or imine radical, or

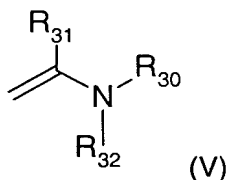
is a methylene radical



in which

the Q₆ and Q₇ and in-
or unsubstituted C₁
ky, C₁-C₂₄alkylthio, C
alkylthio, C₂-C₂₄alk
O-O-(C₆-C₂₄aryl), -C
or A₅-A₁₈heteroaryl,
together are a lacta
enequinone, azlacto
radical,
tion according to cla
y effective amount.

14. A process for preparing a benzofuran-2-one (1a), (1b) or (1c) in which X₁ is X₁₀ according to claim 13, and X₁ is a compound of the formula (V)

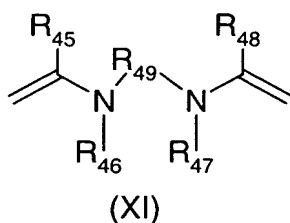


in which

R₃₁ is hydrogen or -NR₈₉R₉₀, in which

R₃₀, R₃₂, R₈₉ and R₉₀ independently of one another are hydrogen, C₁-C₂₄ alkoxy, C₁-C₂₄alkylthio, C₅-C₁₂cycloalkoxy, C₅-C₁₂cycloalkylthio, C₅-C₂₄aryloxy, -thio or A₅-A₁₈heteroaryloxy, -thio, or are C₆-C₂₄aryl-substituted secondary or tertiary amine or C₆-C₂₄aryl, and

where X_2 is of the formula (XI)



in which

R_{46} and R_{47} independently of one another are substituted or unsubstituted C_1 - C_{24} alkyl, C_5 - C_{12} cycloalkyl, C_2 - C_{24} alkenyl, C_6 - C_{24} aryl, C_7 - C_{25} aralkyl, or A_5 - A_{18} heteroaryl, and

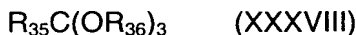
R_{45} and R_{48} independently of one another are hydrogen, C_1 - C_{24} alkyl, C_1 - C_{24} alkoxy, C_1 - C_{24} alkylthio, C_5 - C_{12} cycloalkyl, C_5 - C_{12} cycloalkoxy, C_5 - C_{12} cycloalkylthio, C_2 - C_{24} alkenyl, C_5 - C_{24} aryl, C_7 - C_{25} aralkyl, C_5 - C_{24} aryloxy, -thio or A_5 - A_{18} heteroaryl, A_5 - A_{18} heteroaryloxy, -thio, and

R_{49} is a direct bond, C_6 - C_{24} arylene, A_5 - A_{18} heteroarylene, C_5 - C_{12} cycloalkyl or $bi(C_6-C_{24})$ arylene, $bi(A_5-A_{18})$ heteroarylene, C_2 - C_{24} alkenylene, in which $bi(C_6-C_{24})$ arylene, $bi(A_5-A_{18})$ heteroarylene, C_2 - C_{24} alkenylene can be connected to one another and/or interrupted by a direct bond or by one or more intermediate units such as -CH=CH-, -CH=N-, -N=N-, -CR₄₄R₄₂-, -CO-, -COO-, -OCO-, -NR₄₂CO-, -CONR₄₂-, -O-, -S-, -SO-, -SO₂- or -NR₄₂-,

in which

R_{42} and R_{44} independently of one another are hydrogen, substituted or unsubstituted C_1 - C_{24} alkyl, C_5 - C_{12} cycloalkyl, C_2 - C_{24} alkenyl, C_6 - C_{24} aryl, C_7 - C_{25} aralkyl, or A_5 - A_{18} heteroaryl,

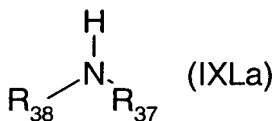
by formylation and subsequent reaction with an amine, which comprises reacting benzofuran-2-one (XXXa) of claim 4 with a formylating reagent of the formula (XXXVIII)



in which

R_{35} and R_{36} independently of one another are substituted or unsubstituted C_1 - C_{24} alkyl, C_5 - C_{12} cycloalkyl, C_2 - C_{24} alkenyl, C_6 - C_{24} aryl, C_7 - C_{25} aralkyl, or A_5 - A_{18} heteroaryl

and a compound of the formula (IXLa)

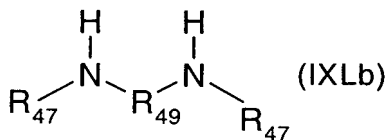


in which

R₃₇ and R₃₈ independently of one another are hydrogen or substituted or unsubstituted C₁-C₂₄alkyl, C₁-C₂₄alkoxy, C₅-C₁₂cycloalkoxy, C₅-C₁₂cycloalkylthio, C₅-C₆cycloalkyl, C₂-C₂₄alkenyl, C₆-C₂₄aryl, C₅-C₂₄aryloxy, C₅-C₂₄arylthio, C₇-C₂₅aralkyl, a primary or secondary amine radical, A₅-A₁₈heteroaryl, A₅-A₁₈heteroaryloxy or A₅-A₁₈heteroarylthio.

benzofuran-2-one (XXXa) or (XXXa) and (XXXb) of claim 5 with a formylating reagent of the formula (XXXVIII)

and a compound of the formula (IXLb)



in which

R₄₆ and R₄₇ independently of one another are hydrogen or substituted or unsubstituted C₁-C₂₄alkyl, C₅-C₁₂cycloalkyl, C₂-C₂₄ alkenyl, C₆-C₂₄aryl, C₇-C₂₅aralkyl, or A₅-A₁₈heteroaryl, divalent polyether, polyimine, polyamine radical, bi(C₆-C₂₄)arylene, bi(A₅-A₁₈)heteroarylene, C₂-C₂₄alkenylene, in which bi(C₆-C₂₄)arylene, bi(A₅-A₁₈)heteroarylene or C₂-C₂₄alkenylene can be interrupted by one or more intermediate units such as -CH=CH-, -CH=N-, -N=N-, -CR₄₄R₄₂-, -CO-, -COO-, -OCO-, -NR₄₂CO-, -CONR₄₂-, -O-, -S-, -SO-, -SO₂- or -NR₄₂-.

in which

R₄₂ and R₄₄ independently of one another are hydrogen, substituted or unsubstituted C₁-C₂₄alkyl, C₅-C₁₂cycloalkyl, C₂-C₂₄alkenyl, C₆-C₂₄aryl, C₇-C₂₅aralkyl or A₅-A₁₈heteroaryl, and

R₄₉ is a direct bond or substituted or unsubstituted C₆-C₂₄arylene, A₅-A₁₈heteroarylene, C₅-C₁₂cycloalkylene or bi(C₆-C₂₄)arylene, bi(A₅-A₁₈)heteroarylene, C₂-C₂₄alkenylene, in which bi(C₆-C₂₄)arylene, bi(A₅-A₁₈)heteroarylene or C₂-C₂₄alkenylene can be interrupted by one or more intermediate units such as -CH=CH-, -CH=N-, -N=N-, -CR₄₄R₄₂-, -CO-, -COO-, -OCO-, -NR₄₂CO-, -CONR₄₂-, -O-, -S-, -SO-, -SO₂- or -NR₄₂-.

15. A method of preparing inks or for coating materials, printing inks, mineral oils, lubricating greases, waxes or dyed or pigmented plastics, non-impact printing material or toners which comprises incorporating a colouring effective amount of compound according to claim 1 or composition according to claim 12 or composition of matter according to claim 13 therein.

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